QUESTIONS FROM BUILDING 3019A TOUR ON MAY 22, 2001

QUESTION NUMBER	QUESTION	ANSWER
1	Are the cranes in the "Penthouse" usable? What are their capacities? Who maintains? Test?	The single bridge crane is a fully operational, 10-ton crane. Cranes are maintained by ORNL Plant & Equipment Division and tested periodically by ORNL Quality Services Division.
2a	Has 3019 and associated piping, walls, etc. been characterized for asbestos?	A comprehensive asbestos characterization has not been conducted. However, known asbestos insulation is labeled. Work controls require asbestos characterization to be performed in conjunction with maintenance or repair tasks as part of a hazard assessment.
2b	What will new contractors role be for [asbestos] removal?	The new contractor will not be required to remove asbestos unless it is necessary to install any of its' equipment.
3	Are there any canisters that can't fit in the shielded carrier(s)?	Yes. As currently packaged, one canister is too long to fit in the shielded carriers. It and another three canisters also have top surfaces which are incompatible with current lift devices in the shielded carriers. Planned handling of these canisters is scheduled for IRP Phase II, when additional lifting fixtures will be available.
4	Perchlorates & HEU – Discuss to what extent present in 3019A's ventilation ducts. [Also see #26]	A portion of building exhaust ventilation duct near the old LOG/COG interface has been found to be contaminated with perchlorates to levels slightly above the ORNL threshold. HEU has been found in ventilation ducts at contamination levels. However, some portions of duct (i.e., the concrete cell off-gas header) have not been characterized. Process history in Building 3019A does not indicate the use of perchlorates in the process cells.
5	Penthouse – Are Defense in Depth items for handling subject to NAQ-1 controls?	Defense-in-Depth items are subject to quality assurance controls as required by 10CFR830.
6a	For defense in depth systems: What quality and procurement requirements exist for vacuum lift, magnetic lift, grapple lift, and 10-ton penthouse crane equipment?	Requirements for the lift devices are identified on design drawings and equipment specifications. All defense-in-depth items are under an initial performance qualification after installation and/or modification and are subjected to a periodic re-qualification.

6b	Most of this [defense-in-depth] equipment is only available from commercial grade, not nuclear grade vendors. Would a configuration control program for developed drawings suffice?	Yes, a configuration control program would adequately control changes to this equipment by integrating engineering evaluations to establish equivalency of substituted or modified items.
7	How is material taken in/out of penthouse?	Large and/or heavy items are introduced into, or removed from the Penthouse via the Crane Bay (Room 202) using the 10-ton bridge crane. Items that can be hand-carried may be transferred to or from the Penthouse via the stairs at the east end.
8	What are the dimensions of the penthouse cell openings?	The main opening from the Penthouse to each of cells 1, 2, 3, 5, and the combined cell 6/7 is a 9-ft. X 9-ft. equipment hatch with a removable plate or shield blocks. Other, much smaller openings exist from the Penthouse to each of the cells that serve as paths for process and instrument lines and for packaged material transfer.
9	Where are UF_6 traps stored in relation to the cell 1 equipment hatch?	The two UF_6 traps are stored under the equipment hatch.
10	How large is cell 1?	The interior of Cell 1 is nominally 11 feet (east-to-west), 19 feet (north-to-south) and 27 feet (bottom-to-top); however, the sealed connection to the Graphite Reactor canal protrudes about 4 feet into the cell to a height about 6 feet and occupies most of the east wall.
11	How many HEPA filters are in cell 2 manipulator box? Are they in series or parallel?	Ventilation service and HEPA filters have not been installed to the modular hot cells in Cell 2. The enclosures have fittings to accommodate two exhaust lines to which filter housings can be attached.
12	Is the Cell 2 manipulator hot cell powered up?	The modular hot cells in Cell 2 currently are not fed with electrical service. (Also see Question #11.)
13	Can the shielded hot cell in “cell 2” be moved around? How many openings are there for access to the hot cell?	The shielded hot cell was assembled in the cell and oriented to enable manipulator removal for maintenance. Disassembly would be required to relocate the shielded hot cells. For the discussion on access openings, see answer to Question 32 above.

14	What is the extent of seismic modifications in the Penthouse? Are the seismic requirements equivalent to those at the Watts Bar Nuclear Plant?	Penthouse seismic modifications are limited to improving the anchoring of four structural columns. These modifications have been completed. The facility is subject to different seismic requirements than the Watts Bar Nuclear Power Plant and, hence, would not be considered equivalent.
15	Is the “Seismic Upgrade” project complete?	Anchoring improvements for Penthouse structural columns have been completed.
16	Do penetrations to cell walls necessitate a Safety Analysis Report/Technical Safety Requirement revision or Safety Analysis review (Unresolved Safety Question Determination (USQD))?	Yes. The cell walls are safety-class design features for safety in the current authorization basis (SAR/TSR). As such, any changes to them must be subjected to review to ensure that the change is safe and that the appropriate level of authorization is acquired.
17	Are there any active systems blowing air into cell 4?	No systems are actively injecting air into Cell 4. Air is drawn into and through Cell 4 by the Cell Off-Gas System.
18	What is the size of the cell 4 penetrations?	The three Cell 4 penetrations which were formerly used as part of Cell 3's ventilation are 10 inches in diameter. A cataloging of other Cell 4 penetrations is not available readily.
19	Describe the conveyor interface with Building 3019B. Is the sample conveyor in use?	The sample conveyor crosses the facility boundary on the roof of Building 3019. The east end of the conveyor enters Building 3019A via the roof over Room 150. The west end enters Building 3019B via the roof over Room 14 (over hot cell AC-1). Both ends are connected to cell spaces that are under negative pressure; the east end is at ~0.8" W.G. and the west end is at ~1.4" W.G. so air flows from the 3019A end to 3019B. The sample conveyor is not in use and is not serviceable.
20	How thick are the leadbrick walls in cell 3?	Lead brick walls in Cell 3 range nominally from 4 to 8 inches thick. Actual thickness was designed to keep exposures to operating personnel nominally below 0.25 mrem/hour.

21	Is their communication or access to 3001? What is the effect of Building 3001 Public Access due to 3019 operations and vice-versa.	Most doors between Buildings 3001 and 3019 are permanently closed. One door is locked with access controlled by the physical security contractor. Visitor presence at Building 3001 poses TSR operational constraints (i.e., LCO 3.1.1) that limit the amount of material that may be handled in the Penthouse at one time. Under the SAR, there is one stored container planned for Phase I inspection that can be handled in the penthouse only when the Building 3001 historical museum is closed to the public.
22	How do we handle the unsecured three (3) story block walls in the Safety Analysis Report? General Answer – Limit inventory at risk.	The inventory of hazardous material that is at risk in these areas is limited to ensure that potential consequences for any postulated event (that assumes the walls fail) do not exceed evaluation guidelines.
23	What is the expectation for characterization and removal of existing equipment?	The expectation for characterization and removal of existing equipment for shutdown in preparation for transfer to the DOE D&D program is defined by functional facility end point specifications currently included in the Draft RFP as Reference Document # 15, *Building 3019A End Point Specification Document*. The Contractor is required to develop plans, including detailed end points, to meet the functional end points and to implement shutdown activities as approved by DOE. Additionally, the Contractor may have to remove equipment to accommodate new equipment/systems for the U-233 down blending and thorium-229 extraction operations.
24	What is the expectation for equipment removal for shutdown in preparation for Decontamination & Decommissioning/ transfer to EM?	The expectation for equipment removal for shutdown in preparation for transfer to the DOE D&D program is defined by functional facility end point specifications currently included in the Draft RFP as Reference Document # 15, Building 3019A End Point Specification Document. The Contractor is required to develop plans, including detailed end points, to meet the functional end points and to implement shutdown activities as approved by DOE.
25	Does the SAR address industrial hazards? Is there lead paint in the building? Asbestos? [Also see #2]	The SAR identifies all hazards in the facility – including those considered standard industrial hazards. Both lead paint and asbestos are present in the facility.
26	Do we have perchlorates in our hood system? [Also see #4]	Hoods and older portions of their exhaust ducts were sampled and found to be clear of perchlorates. Newer portions of the hood exhaust ducts were replaced in 1984 and have not been subjected to perchlorate-generating processes.

27	Was the rolling mill in room 112 ever used? If yes, what are the levels of contamination and types of radionuclides?	The rolling mill was used in another facility. External surfaces of the mill were surveyed in 1996 (the mill was not disassembled) and found to have localized areas of low-level transferrable contamination (up to 372 alpha and 2552 beta dpm/100cm^2) and fixed contamination (up to 375 alpha and 100K beta-gamma dpm/100cm^2).
28	Can Non-US citizens in the home office work on the project?	Yes, they can with some restrictions. Uncleared personnel cannot work in, or support process or facility operations for which there is direct involvement or awareness of special nuclear material accesses or movements. Access to, or awareness of certain safeguards and security documents, features and activities also require appropriate security clearances.
29	Can they get a map of the inventory in the wells?	Such information is restricted and requires extra controls for its dissemination
30	How much are the 3019 security costs?	The security costs for Building 3019 are projected to be $6.013 million for FY 2002, and $6.347 million for FY 2003.
31	Can any of the cans not fit in some of the wells?	Yes, the outer diameter of many cans currently stored in 4.5-inch ID tube vaults precludes their fitting in 4-inch ID tube vaults.
32	What is status and specifications of glovebox in cell 2?	The two shielded modular hot cells/ glove boxes in Cell 2 are a modified version of a shielded beta enclosure unit used in the radiochemical industry and in medical facilities. Each enclosure has a $^1/_4$-inch-thick stainless steel liner measuring 5-ft. wide X 4-ft. deep X 5-ft. tall. Each unit is equipped with two CRL Model GH-D manipulators mounted above shield windows on the front face, and shield doors on the rear face that allow access to a Lexan window with two glove ports. The common wall between the two enclosures has a 4-inch-thick layer of lead and a 1-ft. X 1-ft. pass through equipped with a sealing shield door. A shielded air-lock port (with 1-ft. wide X 1-ft. high cross-section and openings at each end, a 5-in. diameter port in the bottom and a 2-ft. length) is provided at the side of one box. Ten inches of lead shielding is provided on the operating face, with lesser thicknesses of lead on other faces.

33	HEPA Filters – When were they last changed? What is the changing schedule/cycle? [See also #38b]	HEPA filters for the building exhaust ventilation systems were changed in 1992 (for filter Building 3091 serving the COG System) and 1995 (for filter Building 3108 serving the LOG System). HEPA filters serving the GBOG System were changed in 1989 (for one of the two Room 20 filters serving glove boxes in the west labs), 1996-1997 (for two of the three filters in Room 145 serving Penthouse and Room 144 glove boxes), 1999 (for the newly installed filter units in Room 145), and 1990 and 1998 (for two of the three parallel filter units providing second-stage filtration on the east roof ahead of the GBOG fan suction header). Historically, HEPA filters have not been changed on any regular schedule, but have been changed on the basis of excessive pressure drop across the filter media. A ten-year replacement cycle is being instituted. Building 3091 filters are planned for change out in early FY 2002.
34	What are the glove box specifications in rooms 110 and 114?	The two, unshielded, stainless-steel glove boxes in Room 110 nominally are 6 feet wide, 2 feet deep at the base, and 3 feet tall. Each box has a row of four glove ports in the Lexan™ face and each has its own filtered off-gas connection and its own bag-in/out port. The two side-by-side boxes are interconnected by an airlock fitted with a bag-in/out port. Room 114 has three glove boxes, one of which is identical to each of the glove boxes in Room 110. Each of the other two glove boxes nominally are 2½ feet tall and have glass windows, and one of the boxes is made of carbon steel; otherwise, the two boxes are similar to the boxes in Room 110.
35	Have any of the lab areas had recent upgrades/ improvements? Ex: hoods, process waste; etc.	In the 1980s, new process waste and liquid LLW drains and ventilation ducts were installed for all hood labs, and new lab cabinets and hoods were installed in Lab 110.
36	What are the areas covered by “DRY” or “WET” sprinkler systems?	Dry pipe systems (Risers #3 and #4) serve Cell 3 and unheated areas which may be subject to freezing temperatures [mainly on the south side] and along the header serving the east hallway (Room 160), Room 167 and the unheated Building 3100. Deluge systems serve Cells 5, 6 and 7. Wet pipe systems serve the balance of Building 3019A. The wet pipe header leading to 3019B and Building 3135 is manually valved shut.
37	Are there any Government Furnished Equipment vehicles?	Three Cushman “Haulster” utility vehicles are included in the facility property list.

38a	RCV Control Board: What does the "alarm acknowledged" tag mean? Required actions entered; alarm bypassed? Alarm deactivated?	"Alarm acknowledged" tag indicates that a qualified person has responded to the RCV Control Board, silenced the alarm horn, and initiated required actions.
38b	When were the roughing/ HEPA filter banks last changed? A 10-year total change out was mentioned. Is this requirement in writing?	Roughing filters for the LOG system were changed in 1995. Information on change-out of the COG system's roughing filters is not available readily. There is no requirement for roughing filter change-out although excessive pressure drop across filter media is used as guidance by facility management for deciding to change filter media. For a discussion on HEPA filter changes, see the answer to Question #33 above.
39	Room 142: What does purpose of stainless steel flooring serve? Does this cap any radioactive contamination? When was equipment removed from service?	The stainless flooring in Room 142 serves to contain accidental liquid releases from tank or line failures in the room. There is no known radioactive contamination in the concrete sub-floor which requires a cap. Most equipment in the room was taken out of service at various times during the 1970s and 1980s.
40	What is the status of electrical motor control centers/ switchgear? Have preventive maintenance operations been done on any? Is there a testing frequency? Are there any replacement parts for electronic switching equipment? Spare transformers?	Electrical motor control centers and switchgear are fully operational. Preventive maintenance is limited to cabinet vacuuming and terminal tightening and is performed only in conjunction with corrective maintenance activities. Operability testing of the automatic transfer switch is conducted monthly which also tests the operability of standby power generators. Replacement parts are maintained for selected components (e.g., some circuit boards, relays and coils). No spare transformers are maintained.
41a	The CEUSP material contains a high percentage of cadmium. After the CEUSP material is dissolved and downblended, will the product be classified as mixed low level waste?	Once the CEUSP material is declared waste, it likely will be classified as a mixed waste.
41b	Who will disposition any mixed waste? [e.g., CEUSP material contains a high percentage of cadmium.]	If the CEUSP material was declared a waste, the EM contractor would be responsible for disposal. If a secondary waste is generated, then the new contractor would be responsible for packaging and EM contractor would be responsible for disposal.

42a	3020 Stack: If for some reason the 3020 stack needs to be taken down or has a system failure, could the off-gas system support all off-gas systems from 3019-A & 3019-B going to the 3039 stack? If not, which systems could potentially be rerouted to the 3039 stack?	If for some reason the 3020 Stack could not be used for elevated releases, the 3039 Stack off-gas treatment system and fans probably could support the nominal 40K scfm of off-gas flow currently exhausting via the 3020 Stack. However, confirming fan capacity would need further study and such flow would be choked by the existing 10-inch-diameter duct currently providing unfiltered Building 3019A vessel off-gas service. To provide comparable service, fan operating capacity would need to be confirmed and new ducts to the 3039 Stack system would be need to be constructed to allow rerouting filtered exhaust from the two 36-inch-diameter ducts and one 20-inch duct currently serving Building 3019 at the 3020 Stack.
42b	3020 Stack: If for some reason, the 3020 stack needs to be taken down or has a system failure, What kind of “liquidated damages” would the M&I claim if the 3020 stack system went down and the system could not be routed in the 3039 stack?	The new contractor would be expected to provide ample notice to the EM contractor if the 3020 stack is to be taken down. If the 3020 stack has a system failure, the new contractor would be expected to promptly notify the EM contractor. In either event, it is highly unlikely that “liquidated damages” would be assessed.
43a	Room 124 Control Panels: What caused control panels to become contaminated?	The major source of contamination at the control panels was a failed bellows on an in-cell process valve operator that ruptured (prior to the 1970s) during a hydrostatic test. This provided an open pathway for contamination to the valve’s controller located in the control room.
43b	Room 124 Control Panels: Are any of the control panels in operation? If so, are there any replacement parts?	Yes, several panels contain recorders, data loggers, annunciators, switches and toggles for monitoring sumps, for monitoring and controlling VOG service, and for monitoring and controlling transfers within or from liquid LLW Collection and Transfer system components. There are no designated spare parts maintained for these components since they are standard parts for which replacements are readily available.
44	Can a map of the post-process can storage locations be provided?	Such information is restricted and requires extra controls for its dissemination.

45	Did the CEUSP material have concrete added to it when it was solidified?	No.
46	Was the CEUSP material heated and oxidized to solidify?	Yes, the CEUSP can was placed in a furnace and the solution was dripped or controlled sprayed into the heat can.
47	If the CEUSP material was heated, what temperature was it heated to?	The CEUSP material was heated to 800 degrees C.